

a marked up version has not been changed relative to the immediate prior version, except that marked up versions are not being supplied for any added claim or canceled claim.

Claims

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22. An integrated circuit package separator for separating a plurality of integrated circuit packages from one another, the integrated circuit packages being provided as integrated circuit chip components joined to a board, the separating including cutting the board, the separator comprising:

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a panel;
a plurality of blocks over the panel, the blocks having curved upper surfaces and being configured to support the board while leaving the integrated circuit chip components extending between the block upper surfaces and the panel; and

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a cutting mechanism configured to cut the board while the board is supported on the blocks and to thereby separate the integrated circuit packages from one another.

31. The separator of claim 22 further comprising pins extending upwardly from beneath the panel to beyond an upper surface of the panel, the pins configured to extend into the board and retain the board over the panel.

32. The separator of claim 31 wherein the pins do not extend through the panel.

33. The separator of claim 31 further comprising an actuator beneath the panel and configured to vertically displace the panel.

34. The separator of claim 33 wherein the actuator is pneumatically powered.

New Claims

Please add the following new claims:

92. (New) The separator of claim 22 further comprising an actuator beneath the panel and configured to vertically displace the panel.

93. (New) The separator of claim 22 further comprising a pneumatically-powered actuator beneath the panel and configured to vertically displace the panel.

94. (New) The separator of claim 22 further comprising an actuator having plates beneath the panel, the plates moveable to contact and vertically displace the panel.

95. (New) The separator of claim 22 further comprising:
a support beneath the panel; and
an actuator having plates beneath the support, the plates moveable to contact and vertically displace the support and panel.

96. (New) The separator of claim 22 further comprising:
a support beneath the panel; and
an actuator having plates beneath the support, the plates moveable to contact and vertically displace the support and panel, and the plates comprising pins configured to extend through openings in the support.

97. (New) The separator of claim 39 wherein the plate pins comprise tapered distal end portions.

98. (New) The separator of claim 39 wherein the plate pins comprise tapered portions only at distal ends of the plate pins.

99. (New) The separator of claim 39 wherein the plate pins comprise cylindrical base portions and tapered distal portions.

100. (New) The separator of claim 22 further comprising pins extending upwardly from beneath the panel to beyond an upper surface of the panel, the pins configured to extend into the board and retain the board spaced from the panel.